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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,325	10/25/2001	Allan Weed	28001-04006	4910

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EXAMINER

HUGHES, JAMES P

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/054,325

Applicant(s)

WEED ET AL.

Examiner

James P. Hughes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-18 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10 is/are rejected.
- 7) ☒ Claim(s) 5-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeyama (5,338,940). Takeyama teaches as prior art a known wafer platform disposed within an ion implanter comprising a wafer support pad (1) having an upper surface (top side of Fig. 1) for mounting a wafer (2) and a lower surface connected to a coolant passage having inlet (8) and outlet (9) arranged in an opposed, symmetrical, configuration proximate to the center of the upper surface. (Col. 1, ll. 4-45, for example) While Takeyama does not explicitly state that a mass of the inlet section is counterbalanced by a mass of the outlet section, this is inherent in the device because it is necessary for it to operate efficiently when rotating at high speed.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeyama (5,338,940). Takeyama teaches as prior art a known wafer platform disposed within an ion implanter as discussed in section 2 above. Regarding Claims 3, Takeyama does not explicitly disclose the configuration of the coolant passage. Since it is well known in the art that a serpentine configuration is an efficient cooling structure, it would have been an obvious matter of design choice to one of ordinary skill in the art at the time of the invention to arrange the coolant passage in a serpentine configuration to efficiently cool the wafer.

Regarding Claim 10, Takeyama does not explicitly teach a plurality of wafer pad assemblies, however it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a plurality of wafer pad assemblies since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

***Allowable Subject Matter***

4. Claims 5-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 5 would be allowable because the prior art of record fails to teach

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or adequately suggest an apparatus or means for a wafer platform disposed within an ion implanter and including at least one wafer pad assembly for mounting and cooling a wafer, the wafer pad assembly comprising, in combination with the other limitations of the claim and its base claim, a frame having an outer curved surface in mating engagement with a complementary shaped bearing surface of a housing. Claims 6-9 are allowable by virtue of their dependence on Claim 5.

5. Claims 11-18 are allowable because the prior art of record fails to teach or adequately suggest an apparatus or means for wafer pad assembly for mounting a wafer and being disposed in an ion implanter, the wafer pad assembly comprising, in combination with the other limitations of the claim, a frame having an outer curved surface in mating engagement with a complementary shaped bearing surface of a housing. Claims 12-18 are allowable by virtue of their dependence on Claim 11.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tamai (6,313,469) teaches an ion implantation apparatus comprising a wafer pad support (26) having an upper surface for mounting a wafer (W) and a lower surface connected to a coolant passage having inlet (26a) and outlet (26a) with a coolant passage (26b) arranged in a serpentine configuration. (Col. 12, ll. 44 –Col. 15, ll. 30, for example)

Chipman et al. (6,583,428) teaches an ion implanter comprising a cooling mechanism that is cantilevered radially outwardly with respect to the center of the support member (552) to

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pivot about a circumferential axis or pivot point, thus counterbalancing the weight. (Col. 12, ll. 39-56, and Col. 11, ll. 66 – Col. 12, ll. 38 for example)

Mears et al. (5,040,484) teaches a device for holding wafers where counterbalancing is necessary. (Abstract)

Shimazu, et al. (JP 02-068847) teaches a sample stage with a cooling mechanism arranged in a serpentine configuration. (Constitution and Fig. 3)

Ackeret et al. (6,246,060) teaches a sample holding stage with a curved lower surface (196), which is in mating configuration with a rod (202). (Fig. 11 for example)


Any inquiry concerning this communication or earlier communications from the examiner should be directed to James P. Hughes whose telephone number is (703) 305-5675. The examiner can normally be reached on Monday - Friday 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (703) 308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

James P. Hughes  
Examiner  
Art Unit 2881

July 24, 2003



JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800